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| Edexcel GCSE, Linked Pair Pilot |
| **Methods in Mathematics: Unit 2 (Methods 2)** |
| Spring Interim Assessment: Revision |
| Questions with a \* include marks for quality of written communication. |

**Formulae: Higher Tier**

**In any triangle ABC The Quadratic Equation**

 The solutions of *ax*2+ *bx* + *c* = 0

where *a* ≠ 0, are given by

*x* = 

**Sine Rule **

**Cosine Rule** *a*2 = *b*2+ *c*2– 2*bc* cos *A*

**Area of triangle = ***ab* sin *C*

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| 1 | (a) Work out 35% of 1200  (b) Decrease £180 by 41%  (c) Write 220 out of 400 as a percentage. | | | | | 6 |
| 2 | 13 pencils cost £3.77  Work out the cost of 20 of these pencils. | | | | | 2 |
| 3 | *A* is the point (2, 3).  *B* is the point (6, 6).  Work out the length of *AB*. | | | |  | 3 |
| 4 | ABC is a triangle.  AC = 23 cm.  BC = 31 cm  Angle BAC = 54°  Angle ABC = 39°  Calculate the area of triangle ABC.  Give your answer correct to 3 significant figures. | |  | | | 5 |
| 5\* | *FG* and *HJ* are straight lines which cross at *E*.  The lines *AEB* and *CD* are parallel.  (a) (i) Write down the size of angle *a*.  (ii) Give reasons for your answer.    (b) Work out the size of angle *b*. | | |  | | 4 |
| 6 | Make *k* the subject of the formula | | | | | 4 |
| 7 | Make *v* the subject of the formula *h = u + pv* | | | | | 2 |
| 8 | *n* is an integer and –3< *n* < 1  (a) Write down all the possible values of *n.*  (b) Solve 3*x* – 8 > 19 | | | | | 4 |
| 9 | Share 270 in the ratio 2 : 3 | | | | | 2 |
| 10 | Solve 3*x*2 – 2*x* -20 = 0  Give your solutions correct to 2 decimal places. | | | | | 3 |
| 11 | Solve these simultaneous equations.  x2 + y2 = 26  y + 6 = x | | | | | 6 |
| 12\* | The diagram shows 3 sides of a regular polygon.  Each interior angle of the regular polygon is 160°.  Work out the number of sides of the regular polygon. | The | | | | 3 |
| 13 | The diagram shows a wedge.  The base of the wedge is a horizontal rectangle measuring 80 cm by 60 cm.  The sloping face ABRS makes an angle of 21° to the horizontal.  Calculate the angle that AR makes with the horizontal plane ABCD.  Give your answer correct to 1 decimal place. | |  | | | 5 |
| 14 | When a number is decreased by 24% the answer is 190  Work out the number. | | | | | 3 |

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| 15 | The graph of y = f(x) is shown on the grids.  a) On this grid, sketch the graph of y = f(x – 1) b) On this grid, sketch the graph of y = 2f(x) | 4 |



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| 16 | The diagram shows the graph of *y = x*2 – 5*x* – 3  (a) Use the graph to find estimates for the solutions of  (i) *x*2 – 5*x* – 3 = 0  (ii) *x*2 – 5*x* – 3 = 6  (b) Use the graph to find estimates for the solutions of the simultaneous equations  *y* = *x*2 – 5*x* – 3  *y* = *x* – 4 | 6 |